


*robotics engineer with a strong profession in clean code development  
seeking new challenges to enable autonomous devices with artificial intelligence  
passionate and goal oriented team player*

#Robotics, #Middlewares, #ROS, #Controls, #C++, #Python, #Bazel, #CMake









## EDUCATION

- 2011 - 2014 **Master of Science (M.Sc.) - Robotics, Cognition, Intelligence**  
Technische Universität München (TUM), Germany
- 2012 - 2013 **Graduate Student Artificial Intelligence and Robotics**  
Korea Advanced Institute of Science and Technology (KAIST)
- 2007 - 2010 **Bachelor of Science (B.Sc) with Honors - Applied Computer Science**  
University of Cooperative Education Baden-Württemberg in combination of  
Karlsruhe Institute of Technology (KIT)




## EXPERIENCE

- 2021 - now **Intrinsic Innovation LLC, former Google X, an Alphabet company** 
  - Responsible for Intrinsic's hardware abstraction layer
  - Architect real-time interprocess communication middleware up to 3khz
  - Onboarding of external hardware components into Intrinsic's platform
- 2016 - 2021 **Research and Technology Center, Robert Bosch LLC** 
  - Robotics research engineer for industrial manipulation
  - Middleware expert for various distributed systems at Bosch
  - Representative for ROS 2 Technical Steering Committee
- 2016 - 2021 **Open Robotics** 
  - Joint position for collaboration between Bosch and Open Robotics
  - Designing and developing the second generation of ROS
  - Author and architect of ROS 2 lifecycle nodes, rosbag2, ros2-control
- 2015 - 2016 **EOS Innovation, Paris, France (no longer active)**
  - In charge of full stack software from low level controller to build farm
  - Mobile robot for warehouse surveillance based on multi sensor SLAM
- 2014 - 2015 **Softbank Robotics, former Aldebaran Robotics, Paris, France** 
  - Perception team, working on Softbank's humanoid robots (NAO and Pepper)
  - In charge of people detection and tracking with multi sensor fusion
  - Emotion detection algorithms for interacting with humans
- 2013 - 2014 **Internship - PAL Robotics S.L. Barcelona** 
  - Full body motion controller for PAL's humanoid Robots (REEM and REEM-C)

## RESEARCH & PROJECTS

- M.Sc. Thesis "Realizing Online Self-Collision Avoidance Based on Inequality Constraints with Hierarchical Inverse Kinematics" 
- B.Sc. Thesis Evaluation and Implementation of an Accounting-Solution for a Private Cloud with Eucalyptus 
- Talk ROSCon 2019 - "A true zero copy RMW implementation for ROS2" 
- Talk ROSCon 2018 - "Hands-on ROS 2: A Walkthrough" 
- Talk ROSCon 2017 - "Using ROS 2 for Vision-Based Manipulation with Industrial Robots" 
- Project Dynamic Hand Gesture Recognition for Controlling Computer Applications with OpenCV and Python 
- Project Human Computer Interaction through Microsoft Kinect, Computer Vision and Impedance Control 
- Project Implementing Bioloid Robot for Walking and Stair Climbing 

## EXTRA CURRICULUM - OPEN SOURCE

- 2016 **Developer for ROS 2**   
Designing the second generation of ROS, a DDS based middleware with core layers in C and language bindings in C++ and Python
- 2014 **Maintainer for ROS & NaoQi packages**   
C++ and Python bridges to integrate NaoQi driven robots into a ROS environment
- 2014 **"Stack-of-Task", CRNS-LAAS, Toulouse**   
C++ control framework for real-time redundant manipulator control





## LANGUAGES

- German native proficiency
- English full professional working proficiency
- French professional working proficiency
- Spanish basic knowledge

## HOBBIES

- Handball
- Guitar & Drums
- Traveling
- Tinkering

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